# *Dhikr* Therapy to Improving Sleep Quality for Post Surgery Patient at Banten Indonesia

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**ABSTRACT**

Surgery is a medical procedure to treat disease using invasive method that can be painful and cause problems in the health sector, one of them is sleep quality disorder. Spiritual approach can be used to help a patient overcome sleep disorders due to post-surgery pain. *Dhikr* therapy can be used to improve sleep quality of patients forced operation. The aim of this study is to determine the effect of *dhikr*therapy in improving the sleep quality of patient postoperatively. This research is quantitative with quasi experimental research design with pre and post test without controlgroup. The sampling technique in this study uses purposive sampling with 38 sample. The results of the univariate analysis show a decrease in mean score of sleep quality from 15.05 to 11.79. The results of statistical analysis using Wilcoxon test show P value 0.0001; it means that there is influence of *dhikr* therapyin improving the quality of sleep of patients postoperatively. This research can be used and developed as a complement to independent nursing interventions in nursing care after surgery.

**Keywords:** *Dhikr* therapy, Post-surgery, Sleep disorder, Sleep quality, Spiritual approach

## I. INTRODUCTION

Resting and sleepingare a basic needs needed by everyone. Resting and sleeping can restore one's energy after performing daily activities - the day when the sleep function is required for physiological and phsychologicalhealing (DeLaune. S.C & Ladner, P.K. [1]). Sleeping has two stages. If it is not achieved, it will affect the quality of one's sleep. Poor sleep quality will be bad for health (DeLaune. S.C & Ladner, P.K. [1]). The impact of poor sleep quality are confusion, depression, mood changes, diabetes and cardiovascular diseases (Vaughans, B.W. [2]).

There are numbers of factor that interfere with one's sleep quality especially for post surgery patient (Nurlela, S., et al. [3]). After completion of the operation, usually a patient will feel pain in surgical wounds that result on patients who often awakened by the pain and it can cause sleep disorder (Potter, S. & Perry, H. [4]). Sleep disorder can be overcome by administering pharmacological and nonpharmacological therapy. One of nonpharmacological therapy is *dhikr* therapy that has been proven effective to improve the quality of sleep (Reflio, R., et al. [5]). Based on the working principle, *dhikr* therapy can stimulate the parasympathetic on central nervous system which has an effect opposite to the sympathetic nervous system and causes the balance in both the autonomic nerves. This is the basic principle of the onset of the relaxation response, which is the balance between the sympathetic nervous system and parasympathetic nerve (Al-halaj, Q.M. [6]).

Research on the spiritual is already widely found. But the specificity of this study is the intervention, *dhikr* therapy. The *dhikr* therapy is commonly used by the Moslem community as an act of remembering their God. But *dhikr* used as one of therapy especially to post-operative sleep disorder is new. Therefore this study has its own uniqueness because it raised the cultural aspects of society in overcoming one of physiological phenomena postoperatively.

## II. METHOD

This research is a quantitative research, using a quasi-experimental design with pre and post test without control group. The population in this study are all patients postoperatively on the second and third days and having sleeping disorder in Serang District Hospital with 38 samples using a purposive method. The sleep quality instrument in this study uses a questionnaire form of the Pittsburgh Sleep Quality Index (PSQI), which has been modified and tested the validity (Buysee [7]).

The study began by measuring sleep quality of patients using the modified PSQI, then the patients underwent*dhikr*therapy for two days with a frequency of five times a day after prayers. After the intervention, the second step is by remeasuring the quality of sleep by using modified PSQI. Analysis of data on this research are univariate and bivariate. Univariate analysis was conducted to see the average score of sleep quality before and after *dhikr* therapy. The higher score show the poor sleep quality of patients.Bivariate analysis using the Wilcoxon test shows for the presence of *dhikr* therapy effect on the quality of sleep.

## III. RESULT

Table 1. Average sleep quality before and after *dhikr* therapy

| Sleep Quality | Mean | SD | Min-Max | P value |
|---|---|---|---|---|
| Before *dhikr* therapy | 15,05 | 2,04 | 12-19 | |
| | | | | 0,0001 |
| After *dhikr* therapy | 11,79 | 2,81 | 7-16 | |

Table 1 shows that the average score of sleep quality score of patients before *dhikr* therapy is 15.05 (SD 2.04) with a highest score of sleep quality is 19 and lowest is 12. While the average score of patients after *dhikr* therapy is 11.79 (SD 2.81) with the highest sleep quality is 16 and lowest is 7. This means there is an increase sleep quality of post-surgery patients, because the smaller the score the better the sleep quality of the patient. Statistical test results also show the P value 0.0001 which can be interpreted that there is significant influence of *dhikr* therapyto sleep quality.

Having seen the chart 1 changes in patients' sleep quality score, it reflects a significant decreases in mean score of sleep quality. It shows an improvement of patients sleep quality postoperatively.

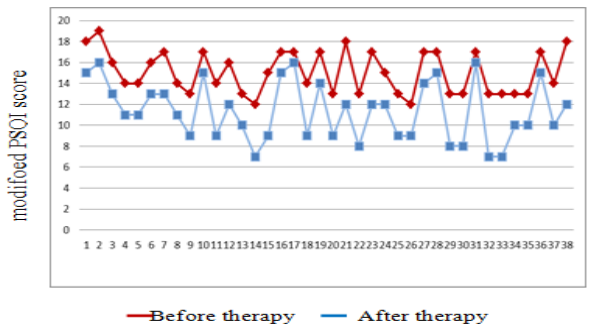


Chart 1. The sleep quality and *dhikr* therapy

## IV. DISCUSSION

Based on these research results,themean of sleep quality before being given *dhikr* therapy is 15.05, while the average scoere after therapy is 11.29 which indicates that there is a decreaseof mean score of sleep quality before and after *dhikr* therapy. The lower score, the better one's sleep quality. The related research alse shows the improvingsleep quality of intervention group (surrender exercise) and finds there is a significant decline or improvement in the scores of components of sleep disorders ($p < 0.005$) in the intervention group between before and after surender exercise which consists of breathing exercises and *dhikr* (Hanlon, J.T. [8]).

The decline of sleep quality score that occur in patients after minor surgery where pain is perceived at the surgical wound is reduced by administering pharmacological therapy in the form of pain relieving drugs and nonpharmacological therapy. While the small decline of sleep quality score occurs to patients after major surgery with complicated pain should be fasted for 2-3 days, severe pain at the surgical site, and sepsis. The small decline of sleep quality scores also occurs to patients with age up to 50 years who have had the habit of frequently waking up and difficult to go back to sleep.

World Health Organization states that the patient experiencing pain often wakes up because of pain. Previous research has found sleep disorders such as insomnia occurs to elderly with complaints of an inability to return to sleep and woke at dawn (Adiyati [9]). The working principle of *dhikr* can shift the sympathetic nerve activity (Fight - or - Flight Response) into parasympathetic (Rest and Digest Response) that is more active to elicit a relaxation response (Hanlon, J.T. [8]). *Dhikr*is called as a greatness of God from moslem, by reading Tasbih, Tahlil, and Tahmid. *Dhikr*focuses the mind with sacred words that will affect the body to becomerelax (Al-halaj, Q.M. [6]). Relaxation is one of nursing interventions in the fulfillment of sleep for patients with sleep disorders which caused a physical disorder or phsychology disorder (Potter, S. & Perry, H. [4]).

When patients do a *dhikr*, there is a thought process that focuses on the words of the holy Tasbih, Tahlil and Tahmid. They stimulate impulse on peripheral sensory through the voices of patients with the holy word. The limbic system would lower the emotions of patients, when thinking about disease Bulbar Synchronizing Region (BSR) impulse balances thought, so that patients are in a state of relaxation. The relaxation response can improve the work of the parasympathetic nervous system and decrease the sympathetic nerves work. The increasing of parasympathetic nerves work can improve peripheral blood flow, warm feeling, and the electrical resistance of the body. Beside, the production of alpha waves become slow, a decreasing oxygen consumption, carbon dioxide emissions, lowering lactic acid levels, lowering respiratory rate, lowering heart rate, lowering muscle tension, and lowering the blood pressure (Vaughans, B.W. [2]).

The parasympathetic nervous on the Central Nervouse System (CNS) is a controller and maintain the quality of sleep.During the phase of sleeping, the parasympathetic nervous works and the sympathetic nerves get a rest. It causes a decreasing epinephrine and norepinephrine secreted by the adrenal medulla. Epinephrine and norepinephrine play a role in waking sleep soundly in Reticular Activating System (RAS). With the *dhikr* therapy, the parasympathetic nervous system works and RAS will retain control function of sleep. They will make patients easier to sleep and woke lowerthe frequency of waking up at night.

In this study, dhikr is done every time the patient finished performing the obligatory prayer 5 times a day, its call salat. The repetition of salat and dhikr indicates the perfect surrender of a servant to his Lord. Resignation of a

person because of his full belief in the creator will affect the work of the neural system. The results show that there is an active picture in the lobe of the brain after a person performs the routine of salat and zikr. The active areas include the anterior cingulate, dorsal medial cortex, caudate, insula, thalamus, and globus pallidus (Newberg, A.B. et al. [10]).

Cingulate cortex is a region that is located towards the front of the corpus callosum, in the medial frontal lobe. This region is involved in decision making and emotional regulation as well as vital to the regulation of physiological processes, such as blood pressure and heart rate (Mumenthaler, M. Mattle, H. and Taub, E. [11]).

The results of related studies have shown a significant influence of al-*dhikr* on the sleep quality of elderly with $P_{value}$; 0.000 ($p < 0.005$). The group of samples who used the *dhikr* therapy, obtained a better quality of sleep compared with control group (Reflio, R., et. al. [5]). Role of the *dhikr*for moslem was not only useful in cementing a servant relationship with the Creator, but also used as a self healing (Al-halaj, Q.M. [6]; Nurcahyo [12]). This therapy can be used as a complement of nursing intervention, for a human being can not be separated from its integrity as being physical, psychological, social, and spiritual (DeLaune. S.C & Ladner, P.K.[1]).

Rituals of worship such as prayer, dhikr, chanting the holy verses of the Qur'an are a routine activity carried out by a Moslem. This activities are often called worship. The goals is to bring a created closer to His creator and make a Moslem surrender to the His creator. During the process of execution of the worship, it appeared to cause increasing teh activity of some areas of the brain (Newberg, A.B. [10]; Kamal, N. F. Mahmood, N.H. and Zakaria, N.A. [13]). Praying like a dhikr after prayer requires the work of complex neurocognitive functions. No exact measuring tool has been found to determine the effect of dhikr on neurocognitive function. But several studies have shown changes in brain imaging and brain wave when a Moslem performs a dhikr.

A specific areas of the brain is involve when a Moslem performs a particular worship like dhikr. There are various processes in the brain associate with the practice of praying or dhikr with the brain network that supports created and His creator relationship psychologically. During routine worship such as salat there is a decrease in activation of the frontal region of the brain including the area of Pre Frontal Cortex (PFC) (Newberg, A.B. [10]). PFC is often classified as a multimodal association cortex. Multiple information, processed into an integrating sensory modalities in a precise way, forms the physiological construction of memory, perception, and varied cognitive processes. PFC participate in them in self-awareness, stimulus-bound behavior, decision-making, metacognitive processes, emotional processes, and regulation of self-behavior (Kamal, N. F. Mahmood, N.H. and Zakaria, N.A. [13]).

Regular prayers such as dhikr also decrease parietal lobe activation and decrease activation of the primary sensory areas in the visual cortex (Newberg, A.B. [10]). The parietal lobe is the main somatosensory cortex that plays an important role in attention, spatial, and language (Mumenthaler, M. Mattle, H. and Taub, E. [11]). The primary visual cortex is part of the neocortex that receives visual input from the retina. Decreased activation of PFC, parietal lobe, and visual cortex during dhikr decreases temporary cognitive function so that rational thought processes decrease or there is a decrease in sensory awareness. This raises resignation to the Almighty which involves more psychological aspects.

Newberg's results also reveal an increase in cerebral blood flow seen in brain imaging before and after zikir (Newberg, A.B. [10]). Blood flow to the brain shows perfusion that goes into the cerebral. Cerebral perfusion is needed to deliver oxygen and nutrients to brain cells. Increased perfusion to the cerebral also increases the amount of oxygen and nutrients to the brain (Mumenthaler, M. Mattle, H. and Taub, E. [11]). Dhikr can be able to increase the perfusion to the cerebral so that the need for oxygen and nutrients to the brain adekuat.

In general, dhikr is categorizing as a form of meditation which is a self-giving activity to the creator. Dhikr for a Moslem helps one's not only physiologically but also psychologically. Physiologically, in addition to increasing cerebral perfusion and decreasing sensory awareness, it can also decrease metabolism, decrease heart rate, decrease breathing rate, and slow brain waves (Siddiqui,A.V. et al. [14]). Psychologically, the impact of spirituality on a person impacts on personal beliefs, individual coping, anxiety, or depression. Patients who submit to their Creator experience less psychological distress and have better expectations in healing and relaxation (Siddiqui,A.V. et al. [14]). Therefore the benefits of zikr are not only for one's physiological but also the psychological person.

## V. CONCLUSION

Based on the analysis performed, the researchers suggest a developedment of independent nursing interventions such as therapeutic intervention of remembrance as a complement to the spiritual condition of the patient attention in improving the quality of patients' sleep. The role of nurse as a professional service providers, especially in meeting the spiritual needs of the patients,should be developed. They also should provide nursing interventions such as mentoring of *dhikr* therapyto post-operative patients who experience sleep disorders such as sleep latency, sleep quality, sleep duration, sleep efficiency, and daytime dysfunction, which are caused by internal and external factors. The researchers suggested do more research to determine the factors of lifestyle and character.

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